

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

Claim 1. (original) A process for the preparation of multiple cross-linked derivatives of hyaluronic acid, which process comprises covalently cross-linking HA via two or more different functional groups, wherein said cross-linking is effected by contacting HA with one or more chemical cross-linking agents so as to form two or more chemically distinct cross-links, between said HA molecules.

Claim 2. (original) A process according to claim 1 wherein the functional groups are selected from hydroxyl, carboxyl and amino.

Claim 3. (previously presented) A process according to claim 1 wherein the crosslinking is effected by means of two or more different bonds selected from the group consisting of ether, ester, sulfone, amine, imino and amide bonds.

Claim 4. (previously presented) A process according to claim 1 wherein the cross-linking agent is selected from the group consisting of formaldehyde, glutaraldehyde, divinyl sulfone, a polyanhydride, a polyaldehyde, a polyhydric alcohol, carbodiimide, epichlorohydrin, ethylene glycol diglycidylether, butanediol diglycidylether, polyglycerol polyglycidylether, polyethylene glycol diglycidylether, polypropylene glycol diglycidylether, and a bis-or poly-epoxy cross-linker.

Claim 5. (previously presented) A process according to claim 1 wherein an ether bond is formed using a crosslinking agent selected from the group consisting of bis epoxides and poly epoxides under alkaline conditions.

Claim 6. (previously presented) A process according to claim 1 wherein an ester bond is formed using a crosslinking agent selected from the group consisting of bis epoxides and poly epoxides under acidic conditions.

Claim 7. (previously presented) A process according to claim 5 wherein the crosslinker is selected from the group consisting of 1,2,3,4-diepoxybutane and 1,2,7,8-diepoxyoctane.

Claim 8. (previously presented) A process according to claim 1 wherein an ether bond is formed using a glutaraldehyde cross-linking agent under acidic conditions.

Claim 9. (previously presented) A process according to claim 1 wherein the crosslinking of each type of functional group is effected sequentially.

Claim 10. (cancelled)

Claim 11. (previously presented) A process according to claim 9 wherein HA is first cross-linked via the hydroxyl groups by formation of ether bonds and subsequently cross-linked via the carboxyl groups by formation of ester bonds.

Claim 12. (previously presented) A process according to claim 1 wherein the crosslinking of each type of functional group is effected simultaneously.

Claim 13. (previously presented) A process according to claim 1 for preparing double crosslinked HA.

Claim 14. (original) A process according to claim 13 which comprises:

(a) cross-linking HA via a first functional group and

(b) subsequently further cross-linking the product of (a) via a second functional group, wherein said first and second functional groups represent different chemical entities.

Claim 15. (previously presented) Multiple cross-linked HA obtainable by a process according to claim 1.

Claim 16. (original) HA cross-linked to a further molecule of HA wherein the HA is crosslinked by at least two different types of bond.

Claim 17. (previously presented) Cross-linked HA according to claim 15 wherein the crosslinking bonds are two or more selected from the group consisting of ether, ester, sulfone, amine, imino and amide bonds.

Claim 18. (previously presented) Multiple cross-linked HA according to claim 15 in the form of a film.

Claim 19. (previously presented) Multiple cross-linked HA according to claim 15 in the form of a gel.

Claim 20. (previously presented) HA according to claim 15 which is double cross linked HA.

Claim 21. (previously presented) A product comprising multiple cross-linked HA according to claim 15.

Claim 22. (cancelled)

Claim 23. (cancelled)

Claim 24 (new). A composition comprising the cross-linked hyaluronic acid (HA) of any one of claims 15-21, wherein said composition further comprises one or more therapeutically active agents.

Claim 25 (new). The composition of claim 24, wherein said therapeutically active agents are selected from the group consisting of anti-inflammatory agents, antibiotics, analgesics, anaesthetics, wound healing promoters, cytostatic agents, immunostimulants, immunosuppressants and antivirals.

Claim 26 (new). The composition of claim 25, wherein said therapeutically active agent is an anaesthetic.

Claim 27 (new). The composition of claim 24, wherein said therapeutically active agents are bound to said cross-linked HA through physical means.

Claim 28 (new). The composition of claim 24, wherein said therapeutically active agents are bound to said cross-linked HA through chemical means.

Claim 29 (new). The composition of claim 24, wherein said composition is in a form selected from the group consisting of membranes, beads, sponges, tubes, sheets and formed implants.

Claim 30 (new). A composition comprising multiple cross-linked hyaluronic acid (HA), wherein said multiple cross-linked HA is formed by two or more chemically distinct cross-links between said HA molecules, wherein said composition further comprises one or more therapeutically active agents.

Claim 31 (new). The composition of claim 30, wherein said therapeutically active agents are selected from the group consisting of anti-inflammatory agents, antibiotics, analgesics, anaesthetics, wound healing promoters, cytostatic agents, immunostimulants, immunosuppressants and antivirals.

Claim 32 (new). The composition of claim 31, wherein said therapeutically active agent is an anaesthetic.

Claim 33 (new). The composition of claim 30, wherein said therapeutically active agents are bound to said cross-linked HA through physical means.

Claim 34 (new). The composition of claim 30, wherein said therapeutically active agents are bound to said cross-linked HA through chemical means.

Claim 35 (new). The composition of claim 30, wherein said composition is in a form selected from the group consisting of membranes, beads, sponges, tubes, sheets and formed implants.

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